

*SPEKTOR M.D.*

SPEKTOR, M.D.

Proteolytic property of gastric secretion in premature infants. Vop.  
okh.mat. i det. 3 no.1:30-33 Ja-F '58. (MIRA 11:2)

1. Iz akushersko-ginekologicheskogo ob'yedineniya Novoshakhtinskoy  
gorodskoy bol'nitsy (glavnyy vrach V.I.Shklyarik) i Rostovskogo nauchno-  
issledovatel'skogo instituta akusherstva i pediatrii (nauchnyy ruko-  
voditel' - prof. I.Ya.Serebriyskiy, dir. - kandidat meditsinskikh  
 nauk D.S.Baranovskaya)  
(INFANTS (PREMATURE)) (STOMACH--SECRECTIONS)

SPIETOR, M.D.

Influence of the composition of food on the development of the  
premature child. Vop.okh.mat.i det. 5 no.1:25-30 Ja-F '60.  
(MIRA 13:5)

1. Iz akushersko-ginekologicheskogo ob'yedineniya Novoshakhtinskoy  
gorodskoy bol'nitsy (glavnyy vrach P.M. Orlov) i Rostovskogo nauchno-  
issledovatel'skogo instituta kusherstva i pediatrii (dir. - kand.  
med.nauk D.S. Baranovskaya, nauchnyy rukovoditel' - prof. I.Ya.  
Serebriyskiy).

(INFANTS (PREMATURE)) (BLOOD AS FOOD OR MEDICINE)

SPEKTOR, Moisey Isaakovich; OL'SHANSKAYA, I.V., inzh., ved. red.;  
L'VOV, G.V., tekhn. red.; SHVETSOV, G.V., tekhn. red.

[Economical design of dies for horizontal forging machines]  
Ekonomichnaia konstruktsiia shtampov gorizonta'l'no-kovachnykh  
mashin. Moskva, Filial Vses. in-ta nauchn. i tekhn.informatsii,  
1958. 11 p. (Peredovoi nauchno-tekhnicheskii i proizvodstven-  
nyi opyt. Tema 5. No.M-58-305/15) (MIRA 16:3)  
(Dies (Metalworking)) (Forging machinery)

PALITSYN, Vladimir Andreyevich, inzh.; SPEKTOR, Moisey Isaakovich, inzh.;  
OSKOLKOV, Aleksey Ivanovich, inzh.; SAMOKHOTSKIY, A.I., inzh.,  
ved. red.; TRUSOV, L.P., kand. tekhn.nauk, red.; SOROKINA, T.M.,  
tekhn. red.

[High-temperature double-chamber electric furnace for heating  
stamping billets] Vysokotemperaturnaya dvukhkamernaya elektri-  
cheskaya pech' dlia nagreva zagotovok pod shtampovku. Moskva,  
Filial Vses. in-ta nauchn. i tekhn. informatsii, 1958. 11 p.  
(Peredovoi nauchno-tekhnicheskii i proizvodstvennyi opyt. Tema 5.  
No.M-58-206/12) (MIRA 16:3)

(Electric furnaces)

SHALAY, K.M., podpolkovnik meditsinskoy sluzhby; GUMENYUK, A.S., podpolkovnik  
meditsinskoy sluzhby; SPECTOR, M.N., podpolkovnik meditsinskoy sluzhby

Remarks on Professor D.B. Rosenblum's article on the "Main problems  
in the field of acceleration physiology." Voen.-med. zhur. no.5:  
91 My '56. (MIRA 9:9)

(AVIATION MEDICINE)

SPEKTOR, M. N., (Lieutenant Colonel of the Medical Service and Candidate of Medical Sciences)

"The Prophylaxis of Difficulty in Hearing in Connection with Inflammation of the Middle Ear"

Voyenno-Meditsinskiv Zhurnal, No. 12, December 1961, pp 62-73

SPEKTOR, M.N., kand.med.nauk, podpolkovnik meditsinskoy sluzhby

Significance of past illnesses in the development of hearing disorders in fliers. Voен.-med.zhur. no.9:84 S '61.

(MIRA 15:10)

(HEARING) (AVIATION MEDICINE)

SPEKTOR, M. N., podpolkovnik meditsinskoy sluzhby, kand. med. nauk

Prevention of hearing disorders in connection with middle ear  
inflammation. Voen.-med. zhur. no.12:73 D '61. (MIRA 15:7)

(EAR--DISEASES) (DEAFNESS)



SPEKTOR, M.P.

Overhead system of transporting bulk cargoes in unloading  
barges. Mekh. trud. rab. 9 no.5:40 My '55. (MLRA 8:7)  
(Cargo handling)

SPEKTOR, M.P.

Conveying turntable for sorting tiles. Stek. i ker. 17  
no. 7:44-46 J1 '60. (MIRA 13:7)  
(Tiles) (Conveying machinery)

SPEKTOR, M.P.

Tool for cutting pottery clay blocks. Stek. i ker. 18 no.2:38-39  
F '61. (MIRA 14:3)

(Cutting machines) (Pottery)

SFEKTOR, M.P.

Mechanization of the opening of filter press frames. Stek.i ker.  
18 no.9:38 S '61. (MIRA 14:10)  
(Filter presses)

ZAKHARIKOV, N.A.; NAYDENOV, V.V.; BLOKH, S.A.; SOLDATOV, G.A.; LEVITSKIY,  
V.K.; KUZNETSOV, V.V.; SPEKTOR, M.P.

Radiation gas drying of structural ceramic products. Stek. 1  
ker. 19 no.7:21-25 J1 '62. (MIRA 15:7)  
(Tiles--Drying)

SOLDATOV, G.A.; LEVITSKIY, V.K.; KUZNETSOV, V.V.; SPEKTOR, M.P.; POKUTNYI, N.P.;  
KHAINSON, A.M.

Gas radiation dryers. Stek.1 ker. 21 no.12:26 D '64.

(MIRA 18:3)

SOLDATOV, G.A.; LEVITSKIY, V.K.; KHAINSON, A.M.; KUZNETSOV, V.V.; SPEKTOR, M.P.

Drying of mettlach tiles in radiation driers. Stok. 1 ker. 22  
no.3:33-35 Mr '65. (MIRA 18:10)

SOLDATOV, G.A.; LEVITSKIY, V.K.; KHAINSON, A.M.; KUZNETSOV, V.V.;  
SPEKTOR, M.P.

Assembly line for the manufacture of shaped objects. Stek. 1  
ker. 22 no.12:33-35 D '65. (MIRA 18:12)

1. Khar'kovskiy plitochnyy zavod.



USSR / General and Specialized Zoology. Insects. Pests of Wood  
and Buildings. P

Abs Jour : Ref Zhur - Biologiya, No 16, 1958, No. 73735

Author : Padiy, N. N.; Spektor, M. R.

Inst : Not given

Title : The Use of DDT in Sanitary Felling to Destroy Trunk  
Pests

Orig Pub : Lesn. khoz-vo, 1958, No 6, 84

Abstract : Pine logs 30 - 48 cm. in diameter, which were completely  
infested with engraver beetles and partially with  
pine beetles, were sprayed with a 5% solution of DDT in  
diesel oil when about 10% of the larvae had stopped  
feeding, but the pupae were not yet formed. After 2  
weeks, the logs were stripped. As a result all larvae  
perished; 36.7% of the pupae and adult beetles per-  
ished in logs with bark 3 - 5 cm. thick; 88.4%, with

Card 1/2

SPEKTOR, Mark Yefimovich; IVASHKINA, Dina Aleksandrovna; OCHERETIYANNYY,  
Mikhail Antonovich; LYUDSKOV, B.P., red.; KISILEVA, A.A.,  
tekhn.red.

[Commercial equipment; handbook] Torgovyi inventar'; spravochnik.  
Moskva, Gos.izd-vo torg.lit-ry. 1959. 222 p. (MIRA 12:10)  
(Retail trade--Equipment and supplies)

L 63238-65

UR/0286/65/000/012/0135/0135

ACCESSION NR: AP5019109

AUTHORS: Shenker, L. I.; Spektor, M. Ya

TITLE: A device for arranging rye and wheat bread in a storage compartment with grooved inclined shelves. Class 81, No. 172232

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 12, 1965, 135

TOPIC TAGS: food, food product machinery, food technology

ABSTRACT: This Author Certificate presents a device for arranging rye and wheat bread in a storage compartment with grooved inclined shelves (see Fig. 1 on the Enclosure). The device consists of a mechanism for individual feeding of loaves, a lifting-lowering separator, and a chain conveyer with cradles for individual feeding of loaves. To improve its productivity and simplify its construction, the lifting-lowering separator is placed under the horizontal portion of the conveyer with cradles and is made in the form of a horizontal platform carrying (at its ends) sprockets for the horizontal portion of the conveyer and a rotary longitudinal cleat held edgewise in its original position, serving as a support for the conveyer cradles. These cradles are hinged to the links through brackets carrying rollers. To produce a more positive rotation of the cleat under the weight of the oncoming cradles loaded with loaves, at the moment of discharging

Card 1/3

L 63238-65

ACCESSION NR: AP5019109

the latter onto the grooved shelves the cleat is spring-loaded at the side of the conveyer chain. To hold the cleat in a vertical position prior to placing upon it the necessary number of cradles, knuckles are properly spaced upon the conveyer chain. These knuckles act upon the lateral face of the cleat, whose idle face bears against an immobile support. Orig. art. has: 1 diagram.

ASSOCIATION: none

SUBMITTED: 31Oct63

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: IE,LS

Card 2/3

I. 63238-65

ACCESSION NR: AP5019109

ENCLOSURE: 01

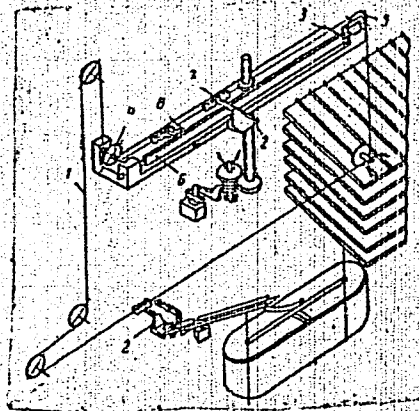


Fig. 1.

1- conveyer; 2- cradle; 3- horizontal platform of the separator; 4 and 5- sprockets; 6- cleat; 7- bracket with a roller mounted upon it; 8- knuckles

Card

KC  
3/3

GAMBURG, V. P.; technical assistance: SPEKTOR, N. M.

Haemagglutination inhibitor and neutralizing factor of A2 influenza virus in sera. Acta virol. Engl. Ed. Praha 5 no. 5: 317-324 S '61.

1. Influenza and Measles Laboratory of the Tarasevich State Control Institute of Medical Biological Preparations, Moscow.

(INFLUENZA VIRUSES immunol)  
(HEMAGGLUTINATION)

SVET-MOLDAVSKIY, G.Ya.; SPEKTOR, N.M.; RAVKINA, L.I.

Experimental myasthenia-like syndrome and thymomas. Vest. AMN SSSR  
19 no.6:69-71 '64. (MIRA 18:4)

1. Institut eksperimental'noy i klinicheskoy onkologii AMN SSSR  
i Institut poliomyelita i virusnykh entsefalitov AMN SSSR, Moskva.

SPEKTOR, Naum Pavlovich; SPERANSKIY, V., red.; PIOTROVICH, M., tekhn. red.

[The party as the organizer of workers' patronage of the rural areas, 1923-1933] Partiya-organizator shefstva rabochikh nad derevnei (1923-1933 gg.). Moskva, Gos. izd-vo polit.lit-ry, 1957. 198 p. (MIRA 11:5)  
(Agriculture)



SHASHKOV, A. N.; SPEKTOR, O. Ch.; ASINOVSKAYA, G. A.

"Influence of thermal cutting under metal on section borders"

paper presented at 18th Annual Assembly, Intl Inst of Welding, Paris, 5-10 Jul  
1965.

SPEKTOR, O. SH.

Jun 50

USSR/Metals - Flame Cutting, Equipment

Equipment for Oxygen-Flux Cutting of Chromium and Chrome-Nickel Steels," S. G. Guzov, O. Sh. Spektor, Engineers, 4 pp

"Avtogen Delo" No 6

Suggests method for cutting stainless and heat-resistand steels. Flux in powdery form is introduced into stream of cutting oxygen and, being burned, liberates great amount of heat. Overheated oxide particles liquefy slag which, running down, exposes base metal, thus creating conditions for continuous process. Describes equipment and recommends flux FKh-1, basic component of which is granular iron powder.

PA 161T97

SPEKTOR O. SH.

USSR/Metals - Gas Cutting

Dec 70

"Improvement and Mechanization of Oxy-Flux Cutting,"  
S. G. Gusev, O. Sh. Spektor, Engineers, VNIIVTOGAS  
(All-Union Sci Res Inst of Welding and Cutting of  
Metals)

"AvtoGen Delo" No 12, pp 24-27

Describes modified hand-cutting torch which, increasing oxygen feed without decreasing feed of flux, raises cutting speed 1.5-2 times. Modification is simple and consists of additional injector and regulating valve. With aid of this type torch and specially designed new flux feeder, any stationary

181776

USSR/Metals - Gas Cutting (Contd)

Dec 50

or portable machine for oxygen cutting may be easily converted to oxy-flux cutting and reconverted to ordinary cutting.

181776

1ST AND 2ND ORDERS																										3RD AND 4TH ORDERS																									
MATERIALS INDEX													PROCESSES AND PROPERTIES INDEX													COMMON VARIANTS INDEX																									
<p><b>B</b></p> <p><b>Equipment for Oxygen-Flux Cutting of Chromium and Chromium-Nickel Steels. (In Russian.) S. G. Gurov and O. Sh. Spektor. <i>Atmogennoe Delo</i> (Welding), v. 21, June 1950, p. 11-15.</b></p> <p>Describes equipment in which particles of flux, preheated by an oxyacetylene flame, burn in the jet of oxygen and release a large amount of heat, so that the superheated particles of oxides formed pass into the slag and liquefy, thus establishing conditions necessary for continuous cutting. Sheets of up to 150-mm. thickness may be cut. The basic component of the flux is iron powder. Optimum operating conditions are determined for various thicknesses and types of steels.</p>																																																			
<p>ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION</p> <p>1ST ORDER 2ND ORDER 3RD ORDER 4TH ORDER</p>																																																			

4777\* Improvement and Mechanization of Oxygen-Flux Cutting. (In Russian.) S. G. Guzyov and O. Sh. Spokh. *Actingene Dela (Welding)*, v. 21, Dec. 1950, p. 24-27. Describes and illustrates apparatus devised for the above, by which additional oxygen is introduced directly into the cut by means of a special attachment. Operating characteristics are tabulated for cutting Cr steels of thicknesses up to 200 mm.

183T54

SPEKTOR, O. Sh.

USSR/Engineering - Flame Cutting

Jan 51

"Oxygen-Flux Cutting of Cast Iron," S. G. Guzov,  
O. Sh. Spektor, Engineers, VNI Avtogen

"Avtogen Delo" No 1, pp 16-18

Procedure established for cutting cast-iron products of large cross section. Method is based on possibility of overheating and diluting slags, formed in kerf, with powdered flux delivered continuously to cut. Among other expts, cast-iron chunk 360 mm in diam was cut in 2 passes

183T54

USSR/Engineering - Flame Cutting (Contd)

Jan 51

with turn, using hand cutting torch with FCh-1 flux.  
Max depth of continuous cut for this torch is 280-300 mm at cutting-oxygen pressure Ca 10 kg/sq cm.

183T54

SPECTOR, O. SH.

USSR/Engineering - Welding, Flame Cutting Sep 51

"Surface Oxygen-Flux Cutting of High-Chrome Steels," S. G. Guzov, O. Sh. Spector, Engrs, VNII-avtogen

"Avtogen Delo" No.9, pp 19-22

Describes cutting torch RPKF-2 which, in addn to ordinary injector for supplying acetylene, has in its head injecting device fed with oxygen-flux mixt and addnl cutting oxygen. In surface prepn of chrome and chrome-nickel ingots for rolling, surface oxygen-flux cutting has production capacity at least 3 times that of elec-arc cleaning.

202T38

1ST AND 2ND CROERS																										3RD AND 4TH CROERS																									
PROCESSES AND PROPERTIES INDEX																																																			
<p>228-4. Oxygen-Flux Cutting of Cast Iron. (In Russian.) E. G. Gusov and O. Sh. Spector. <i>Autogennoe Delo</i> (Welding), v. 22, Jan. 1961, p. 16-18. Proposes a new method applicable to cast-iron billets up to 300 mm. in diam. (G22, CI)</p>																										<p>6</p>																									
<p>ASU-SLA METALLURGICAL LITERATURE CLASSIFICATION</p>																										<p>EX-228-4. 228-4</p>																									
<p>1ST AND 2ND CROERS</p>																										<p>3RD AND 4TH CROERS</p>																									



B7R

6930\* Oxygen-Flux Surface Cutting of High-Chromium Steels. (In Russian.) S. G. Ginzov and O. Sh. Sisklov. *Arkhivnaya Delo*, v. 22, Sept. 1951, p. 19-22.

The removal of surface defects from ingots and billets of the above by oxygen cutting is discussed. Influence of torch design and other factors is thoroughly analyzed. Apparatus is diagrammed; results are charted, tabulated, and illustrated.

SPEKTOR, O.Sh.

~~Oxygen~~ cutting of nonferrous metals. Trudy VNIIAvtogen no.1:  
(MIRA 12:10)

183-194 '53.

(Gas welding and cutting) (Nonferrous metals)

SPEKTOR, O. Sh.

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Journal of the Iron and Steel Institute  
Vol. 176 Part 3  
Mar. 1954  
Welding and Flame-Cutting

New Apparatus for Cutting Cast Iron. O. Sh. Spektor.  
*(Litsinoe Proizvodstvo, 1953, 3, (1), 15). [In Russian].* The  
application of the oxygen-flux method to cast iron is described.  
The type of apparatus used is the same as that for high-  
chromium steels and non-ferrous metals, while the cutting  
process resembles that for low-carbon steel.—S. K.

SPEKTOR, O. SH.

4508. Ustanovka urr-600 dlya ruchnoy rezki stalitolshchinoy ot 300 do 600 MM.  
Kislородом nizkogo davlyeniya (M.), 1954. 8S. Fill. 22 SM. (Vsesoyuz nauch. - 1S3  
led. in-T autogennoy obrabotki metallov iniiavtogen glavkislороda mkhp SSSR.  
Inform. Listok No. 52). 2.500 EKZ B. TS. - SCST. Ukazan v podstroch.  
primech - bez tit. 1. i obl. - (54-15866zh) 621.791.5.054

SO: Knizhaya Letopis, Vol. 1, 1955

GUZOV, S.G.; SPEKTOR, O.Sh.

Investigating the process of thick steel severing by low  
pressure oxygen. Trudy VNIIAvtogen no.3:125-158 '55. (MIRA 11:12)  
(Gas welding and cutting--Equipment and supplies)

SPEKTOR, O.Sh., inzhener.

Oxygen cutting of steel in continuous tecming plants. Stal' 16  
no.11:1042-1048 N '56. (MIRA 10'1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy  
obrabotki metallov.  
(Gas welding and cutting) (Steel--Metallurgy)

*SPEKTOR, O.S.H.*

ANTONOV, I.A., kand.tekhn.nauk; ANTOSHIN, Ye.V., inzh.; ASINOVSKAYA, G.A., inzh.; VASIL'YEV, K.V., kand.tekhn.nauk; GUZOV, S.G., inzh.; DEYKUN, V.K., inzh.; ZAYTSEVA, V.P., inzh.; KAZHEKOV, P.P., inzh.; KARAN, Yu.B., inzh.; KOLTUNOV, P.S., kand.tekhn.nauk; KOROVIN, A.I., inzh.; KRZHECHKOVSKIY, A.K., inzh.; KUZNETSOVA, Ye.I., inzh.; MATVEYEV, N.N., teknik; MOROZOV, M.Ye., inzh.; NEKRASOV, Yu.I., inzh.; NECHAYEV, V.D., kand.tekhn.nauk; NINEBURG, A.K., kand.tekhn.nauk; SPEKTOR, O.Sh., inzh.; STRIZHEVSKIY, I.I., kand.khim.nauk; TESMENTSKIY, D.I., inzh.; KHROMOVA, TS.S., inzh.; TSEUNEL', A.K., inzh.; SHASHKOV, A.N., kand.tekhn.nauk, dots.; SHELECHNIK, M.M., inzh.; SHUKHMAN, D.Ya., inzh.; EDEL'SON, A.M., inzh.; VOLODIN, V.A., red.; UVAROVA, A.F., tekhn.red.

[Machines and apparatuses designed by the All-Union Institute of Autogenous Working of Metals] Mashiny i apparaty konstruktssii VNIIAvtogen. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroitel'noi lit-ry, 1957. 173 p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut avtogennoi obrabotki metallov, no.9)

(Gas welding and cutting--Equipment and supplies)

137-58-2-3251

*SPEKTOR, O. SH.*

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 2, p 143 (USSR)

AUTHOR: Spektor, O. Sh.

TITLE: Investigation of the Fundamental Parameters of Oxygen Cutting in Conjunction With Continuous Pouring of Steel (Issledovaniye osnovnykh parametrov kislorodnoy rezki pri nepreryvnoy razlivke stali)

PERIODICAL: Tr. Vses. n.-i. in-ta avtogen. obrabotki metallov, 1957, Nr. 4, pp 3-33

ABSTRACT: The technology of the cutting (C) process and the equipment permitting C of steel in a horizontal position under the conditions prevailing during continuous production of steel, with cutting proceeding at the rates required by the process, are described. A classification of steels of various grades is given in terms of cutability (relative to cold C), and nomographs of the major parameters of the process of C of a hot billet to a depth of 100-300 mm are plotted. The major peculiarities of C of a hot billet consist of the following: 1) the C process attains greatest stability when the cutter is started in motion along the line of cut at a 40-50 percent reduced C speed simultaneously

Card 1/2



137-58-2-3251

Investigation of the Fundamental Parameters of Oxygen Cutting (cont.)

with the turning on of the  $C O_2$ ; 2) a stream of  $O_2$  at an angle of  $92-93^\circ$  makes it possible to start  $C$  "on the run" with an initial speed about 10-20 percent below the normal; 3) in  $C$  of steel 150-200 mm thick, the distance between the orifice and the metal being cut should be 70-100 mm; 4) horizontal  $C$  of cold metal is possible under the same conditions as ordinary  $C$  in the lowered position, on condition that the unit flow of  $O_2$  per unit length be increased by 150-200 percent; 5) at constant flow of  $O_2$  and an increase in the temperature of the metal to  $1000^\circ C$  as compared to the  $C$  of metal having a temperature of  $300-500^\circ C$ ; 6) an increase in the temperature of metal prior to  $C$  impairs somewhat the quality of the surface of the cut and increases the amount of adhering slag and also fusion of the edges, but on the other hand it increases the stability of the process; 7) to assure stability of the process of "hot"  $C$ , it is necessary to increase the power of the pre-heat flame, and this flame must have a small excess of  $C_2H_2$  so as to increase the length of the flame.

G.K.

1. Gas cutting--Applications    2. Steel--Processing

Card 2/2

*Spektor, O. Sh.*

SUBJECT: USSR/Welding

135-4-15/15

AUTHORS: Guзов, S.G., and Spektor, O. Sh.

TITLE: Remarks to the Review by K.K. Khrenov and A.D. Kotvitskiy -  
"To the Problem of Cutting Thick Sections with Low-Pressure  
Oxygen" ("Svarochnoye Proizvodstvo" No 3, 1957).  
(Zamechaniya po retsenzii K.K. Khrenova, M.M. Borta i A.D.  
Kotvitskogo "K voprosu o rezke bol'shikh tolshchin kislorodom  
nizkogo davleniya", "Svarochnoye Proizvodstvo", # 3, 1957).

PERIODICAL: "Svarochnoye Proizvodstvo", # 4, pp 29-30 (USSR). 1957

ABSTRACT: The article represents remarks to statements made by K.K.  
Khrenov and A.D. Kotvitskiy, which the authors regard as con-  
tradictory or downright wrong.  
The authors present their own conclusions on the criticized  
points: the proper oxygen pressure and the proper shape of the  
nozzle; effect of a slow oxygen stream in cutting materials of  
over 200-300 mm thickness; the proper pressure at the nozzle  
inlet and the effect of the size and shape of nozzle bores.  
Not stated.

ASSOCIATION:

PRESENTED BY:

SUBMITTED:

AVAILABLE: At the Library of Congress

Card 1/1

SPEKTOR, Oyzer Shmulevich; RAGAZINA, M.F., inzh., ved. red.; SHTERLING,  
S.Z., dots., red.; SOROKINA, T.M., tekhn. red.

[Arc and gas cutting of stainless steel] Dugovaia i gasovaia rezka  
nerzhaveiushchei stali. Moskva, Filial Vses. in-ta nauchn. i  
tekhn. informatsii, 1958. 30 p. (Peredovoi nauchno-tekhnicheskii  
i proizvodstvennyi opyt. Tema 12. No.M-58-190/18) (MIRA 16:3)  
(Electric metal cutting)  
(Gas welding and cutting)

25(1)

*Spektor, O. Sh.*

PHASE I BOOK EXPLOITATION

SOV/2281

Vsesoyuznyy nauchno-issledovatel'skiy institut avtojennoy obra-  
botki metallov

Kislородnaya rezka i svarka (Oxygen Cutting and Welding) Moscow,  
Mashgiz, 1959. 268 p. (Series: Its: Trudy, vyp. 5) Errata  
slip inserted. 4,800 copies printed.

Ed.: A.N. Shashkov, Candidate of Technical Sciences; Ed. of  
Publishing House: G.N. Soboleva; Tech. Ed.: V.D. El'kind;  
Managing Ed. for Literature on Heavy Machine Building: S. Ya.  
Golovin, Engineer.

PURPOSE: This collection of articles is intended for engineers,  
technicians, scientists, designers, and students of vtuzes.  
The book may be used for improving operational methods of  
oxygen and gas metalworking.

COVERAGE: This book contains articles on theoretical investigations  
of oxygen cutting and welding and problems related to the gas-

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Oxygen Cutting and Welding

SOV/2281

flame treatment of metals. No personalities are mentioned.  
References follow each article.

TABLE OF CONTENTS:

Kurlovich, Yu. V. [Engineer]. Designing a Tracer Mechanism for  
Photocell-Copying Systems 3  
The author presents the results of a theoretical investigation of the determination of data of tracer-measuring instruments by computation. A comparative evaluation is included.

Guzov, S.G. [Engineer]. Investigating Parameters of Preheating  
Flame in Oxygen Metal Cutting 16  
The author discusses the importance of the preheating flame in oxygen metal cutting and determines the optimum operational and constructional parameters for nozzles for oxygen cutting of steel 5 to 200 mm. in thickness.

Spektor, O. Sh. [Engineer]. Methods of Calculating Metal-base  
Fluxes for Oxygen Cutting of High-chromium Steel 97

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Oxygen Cutting and Welding

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sumption at its Exit From Cylindrical Nozzles of Welding and  
Cutting Torches 191

The author investigates this problem and reaches an approximate value of the  $\mu$ -coefficient by determining the relationship between the diameter of the nozzle orifice, the oxygen pressure, and the condition of the nozzle.

Asinovskaya, G.A. [Engineer], and N.M. Zelikovskaya [Engineer].  
Gas Soldering and Welding With BM-1 Gaseous Flux 200

The author discusses the process developed in other countries, and the equipment used.

Strizhevskiy, I.I. [Candidate of Chemical Sciences], and V.P. Zaytseva [Engineer]. Preparation and Properties of Gaseous Flux 221

The author gives technological data of methylborate-methanol flux and makes recommendations for proper storage to prevent hydrolysis.

Strizhevskiy, I.I., and V.P. Zaytseva. Stabilizing Acetylene 229

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Oxygen Cutting and Welding

acetylene ratio and employs the SV-10GS welding rod, developed by VNII Avtogen.

Strizhevskiy, I.I., and D.I. Tesmenitskiy [Engineer].  
Using Fine-grained Calcium Carbide in a Mixture With Fuel-Oil 256

Kozlovskiy, A.L. [Candidate of Technical Sciences]. New Materials for Metallizing 260

The author describes a method of metallizing, claimed to be new, in which metal powder embedded in a plastic filament is used instead of the usual metal wire or powder. Because of the high degree of dispersion of the metal, coatings produced by filament spraying have a fine-grained structure and are more uniform than those produced by the wire or powder methods.

Kozlovskiy, A.L., I.A. Nemkovskiy [Engineer] and N.I. Filimonova [Engineer]. Developing Production Methods for Manufacturing Polyamide Powder for Metallizing 263

Card 6/7

SOV/135/59-4-6/18

18 (7)  
25 (1)

AUTHOR: Spektor, O. Sh., Engineer

TITLE: The Effect of Flux Composition on the Physical and Chemical Properties of the Slag in Oxy-Acetylene Cutting of Stainless Steel (Vliyaniye sostava flyusa pri kislородno-flyusovoy rezke nerzhavayushchikh staley na fiziko-khimicheskiye svoystva shlaka)

PERIODICAL: Svarochnoye proizvodstvo, 1959, Nr 4, 22 - 25 (USSR)

ABSTRACT: The article presents the results of an experimental investigation in which information was obtained on the structure of the chrome compounds formed in slag during the oxy-acetylene cutting of stainless steel. The absence of data on this matter was the major obstacle for the proper choice of flux composition. The flux used for the investigation was composed of iron powder in accordance with the method described in Reference 1. The flux of quartz sand and calcites were also studied. The slags obtained were chemically and petrographically investigated. The chemical composition of

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SOV/135-59-4-6/18

The Effect of Flux Composition on the Physical and Chemical Properties  
of the Slag in Oxy-Acetylene Cutting of Stainless Steel

the chrome compounds in 10 kinds of slag (Table 1) is given and micro-photographs are included. The conclusions made are the following: 1) chrome was present in the slag in the form of chromite-type compounds; 2) the earlier supposition (Ref. 1) was justified, namely that if flux is being fed by double-injection, the quantity of readily melt-able compounds at the cutting spot must be such that the chrome oxide content in the slag mass does not exceed 15%; 3) the best cutting results are obtained with an addition of 5 to 10% aluminum to the iron powder. It raises the specific heat of flux burning and lowers the melting point of the slag formed in the process; 4) an addition of silicocalcium or a mixture of silicocalcium with aluminum entails a considerable widening of the cut. The oxygen stream being consumed quickly, the supply has to be considerably raised or the cutting speed has to be slowed down; 5) the cutting efficiency drops abruptly when quartz sand is used for flux. This is due to the higher viscosity of the forming slags, caused by the presence of a considerable

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SOV/135-59-4-6/18

The Effect of Flux Composition on the Physical and Chemical Properties  
of the Slag in Oxy-Acetylene Cutting of Stainless Steel

quantity of silicon dioxide in addition to the presence of  
high-melting chrome oxides. Experiments were made at  
cutting the 40 mm steel sheet "1618N9T". Cutting was made  
at steady expenditure of gas and flux. Contents of flux  
and cutting regimes are indicated in table 1.  
There are 3 tables, 5 microphotographs, 3 graphs, and 2  
Soviet references.

ASSOCIATION: VNIIAVTOGEN.

Card 3/3

S/135/59/000/012/003/006  
A115/A029

AUTHOR: Spektor, O. Sh. Engineer

TITLE: Transformation of Composition and Structure in the Cut Zone  
of Austenite and Semiferrite Steels

PERIODICAL: Svarochnoye proizvodstvo, 1959, No. 12, pp. 9 - 12

TEXT: To find out the behavior of alloying elements in the zone of oxygen cuts, 10 different grades of steel were tested, of which the components and characteristics are shown in Tables 1 and 2. The flux was composed of 0.2 % C, 0.5 % Mn, 0.5 % Si and 95.5 % Fe. The structure of steel in the zone of thermal influence of the cut undergoes marked changes: increase in the grain size, hardening, tempering of the hardened layer. Cracks do not appear in the austenite steels because these steels are not subjected to transformation phase and subsequent cooling during the cut. In the case of semiferrite steels, martensitic structure appearing at the edge of the cut is relatively deficient in hardness due to the low content of carbon and does not cause much strain. It has been experimentally proved that during the oxygen cutting the edges of the cut extending 0.5 mm inward lose alloying elements. Changes in the layer adjoining the

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S/135/59/000/012/003/006  
A115/A029

Transformation of Composition and Structure in the Cut Zone of Austenite and Semiferrite Steels

cut are explained by processes of heterogeneous diffusion causing reduction of alloying elements. The degree of these changes depends on the chemical composition of the steel, on the heat employed and on the quantity of slag generated. To remove the damaged layer, grinding of the surface of the cut is advisable. There are 5 graphs, 4 tables, 3 figures and 3 Soviet references.

ASSOCIATION: VNIIAvtogen (All-Union Scientific Research Institute Oxyacetylene Welding and Cutting of Metals)

Card 2/2

VLADIMIRSKIY, T.A., doktor tekhn.nauk; VROBLEVSKIY, R.V., inzh.;  
 GLEBOV, L.V., inzh.; GODIN, V.M., kand.tekhn.nauk; GUZOV,  
 S.G., inzh.; GULYAYEV, A.I., inzh.; YERSHOV, L.K., inzh.;  
 KOCHANOVSKIY, N.Ya., kand.tekhn.nauk; LYUBAVSKIY, K.V., prof.,  
 doktor tekhn.nauk; PATON, B.Ye., akademik, prof., doktor tekhn.  
 nauk; RABINOVICH, I.Ya., kand.tekhn.nauk; RADASHKOVICH, I.M.,  
 inzh.; RYKALIN, N.N., prof., doktor tekhn.nauk; SPEKTOR, O.Sh.,  
 inzh.; KHRENOV, K.K., akademik, prof., doktor tekhn.nauk;  
 CHERNYAK, V.S., inzh.; CHULOSHNIKOV, P.L., inzh.; SHORSHOROV,  
 M.Kh., kand.tekhn.nauk; BRATKOVA, O.N., prof., doktor tekhn.nauk,  
 nauchnyy red.; BRINBERG, I.L., kand.tekhn.nauk, nauchnyy red.;  
 GEL'MAN, A.S., prof., doktor tekhn.nauk, nauchnyy red.; KONDRATOVICH,  
 V.M., inzh.; nauchnyy red.; KRASOVSKIY, A.I., kand.tekhn.nauk,  
 nauchnyy red.; SKAKUN, G.P., kand.tekhn.nauk, nauchnyy red.;  
 SOKOLOV, Ye.V., inzh., red.; IVANOVA, K.N., inzh., red.izd-va;  
 SOKOLOVA, T.F., tekhn.red.

[Welding handbook] Spravochnik po svarke. Moskva, Gos.nauchno-  
 tekhn.izd-vo mashinostroit.lit-ry. Vol.1. 1960. 556 p.

(MIRA 14:1)

1. AN USSR (for Paton, Khrenov). 2. ~~Chleny-korrespondenty AN SSSR~~  
 (for Rykalin, Khrenov).

(Welding--Handbooks, manuals, etc.)

S/788/60/000/006/001/004  
E202/E492

AUTHOR:

Spektor, O.Sh., Engineer

TITLE:

The effect of flux composition on the physico-chemical properties of slag formed during oxygen cutting of stainless steel

SOURCE:

Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov. Trudy. no.6. 1960. Kislородnaya rezka, metallizatsiya, payka. 26-34

TEXT: Slags formed during oxyacetylene cutting of 40 mm thick sheets of the stainless steel 1X18H9T (1Kh18N9T) were investigated using basically three types of fluxes, viz FeO, FeO-Al<sub>2</sub>O<sub>3</sub> and SiO<sub>2</sub>-CaO-FeO. The components of these fluxes were calculated on the basis of iron powder according to a method described by the author in an earlier paper. Details of flux compositions and all the principal working parameters of the cutting process including the upper and lower width of the cut are included together with the chemical and petrographic analyses of the resulting slags. It was found that addition of 10% aluminium powder to the iron powder increased the rate of

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S/135/60/000/008/008/010  
A006/A002

AUTHORS: Spektor, O.Sh., Polomkin, B.I., Engineers

TITLE: The "УРХС -4" (URKhS-4) Installation for Oxygen-Flux Cutting of Stainless Steel ✓

PERIODICAL: Svarochnoye proizvodstvo, 1960, No. 8, pp. 33-35

TEXT: Installations for the oxygen-flux cutting of stainless steel, developed during the past years, operate mainly on the system of double flux injection (the "УРХС -3" (URKhS-3) installation, designed by VNIIVTOGEN), on the system of single-duct flux feed under high pressure (the "УФР-2" (UFR-2) machine designed by MVTU imeni Bauman) and on the system of external flux feed. A comparison of the cutting speeds and the specific flux consumption obtained in operation on these systems is given. (Figures 2 and 3). It appears from these graphs that installations operating on an external flux feed ensure a cutting efficiency raised by a factor of 1.5 - 2 and a flux consumption reduced by a factor of 2 - 4, compared to indices for the URKhS-3 and UFR-2 installations. The URKhS-4 machine was developed for oxygen-flux cutting with external flux feed and oxygen as a flux-bearing gas. The system of the installation is shown (Figure 4) and its

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S/135/60/000/008/008/010  
A006/A002

The "УРХС-4" (URKhS-4) Installation for Oxygen-Flux Cutting of Stainless Steel

operational features are described. The use of external flux feed to the cutter, made it possible to simplify the design of the flux feeder and to employ cutters used in conventional oxygen cutting of low-carbon steel. Moreover, the use of a cyclone flux feeding device ensured the accurate dosage of small amounts of powder supplied to the area of cutting. Speeds of cutting stainless steel, attained on the "URKhS-4" machine exceed those of the URKhS-3 machine by a factor of 1.8-2.3; they may be compared to speeds of cutting low-carbon steel of the same thickness. The higher speeds are achieved by increased oxygen consumption without a higher flux consumption, by a smaller width of the oxidation reaction front, and by the intensified fluxing of oxides. The specific flux consumption of the URKhS-4 machine was by 2-4 times lower than that of the URKhS-3 machine due to a finer grain size of the flux (less than 0.15 mm) and a better distribution of the flux over the cutting area. As a result the cost of material per 1 running meter of cut was reduced by a factor of 1.3-2. The "УМ" (VM) iron powder of the following composition is recommended for use on the URKhS-4 machine: 94-96% Fe (total); 0.4% C; 1.2% Si; 0.5% Mn; 0.06% S; 0.05% P. The loose weight is 2.1-2.3 g/cm<sup>3</sup>. Experiments performed with optimum initial values were used to establish some analytical dependences for the main parameters of the process such

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S/135/60/000/008/008/010  
A006/A002

The "УРХС-4" (URKhS-4) Installation for Oxygen-Flux Cutting of Stainless Steel

as the cutting speed, the optimum oxygen consumption, the cutting flame power and the average width of the cut. Average conditions for cutting "1X18H9T" (1Kh18N9T) steel on the URKhS-4 machine, corresponding to the presented formulae, are given in a table. There are 1 table and 6 figures. ✓

ASSOCIATION: VNIIAVTOGEN

Card 3/3

SPEKTOR, O.Sh., inzh.

Investigating the effect of oxygen-flux cutting on the composition,  
structure and properties of the metal near the cut surface. Trudy  
VNIIAvtogen no.8:72-84 '62. (MIRA 15:6)  
(Gas welding and cutting)

S/788/62/000/008/002/003

AUTHOR: Spektor, O.Sh., Engineer.

TITLE: Investigations of the effect of oxygen-flux cutting on the composition, structure, and properties of the metal near the surface of the cut.

SOURCE: Moscow. Vsesoyuznyy nauchno-issledovatel'skiy institut avtojennoy obrabotki metallov. Trudy. no.8. 1962. Gazoflyusovaya naplavka i svarka, kislородnaya rezka, metallizatsiya. pp. 72-84.

TEXT: The selective oxidation of the elements in the reaction space of oxygen cutting of carbon steel modifies the composition of the metal along the edge of the cut. It may be of interest to introduce alloying elements into the cutting zone of austenitic and semiferritic steels to control the resulting changes. Metallographic and chemical studies were performed on specimens on which O-flux cutting had been done on cold metal and on metal heated to 140-250°C. The flux powder consisted of BK (VK) iron containing (in %): 0.2 C, 0.5 Mn, 0.5 Si, and 95.5 Fe<sub>total</sub>. The chemical compositions of the steels cut and the procedural cutting parameters employed are tabulated. Structural changes were observed in the cutting zone, comprising an overheated structure directly adjacent to the cut and a transitional structure between the overheated structure and the parent metal. A tabulation shows that the depth of the zone of the thermal effect depends on the procedural parameters, but the depth of the overheat zone depends on the chemistry and the thermo-physical properties of the metal subjected to cutting. In NiCr steel, the

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Investigations of the effect of oxygen-flux cutting... S/788/62/000/008/002/003

overheat region evinced a weakly-etchable band (illustrated by photo) in which prolonged electroetching in 10% oxalic acid revealed a dendritic structure characteristic of cast metal. In extremely high-Cr steels the overheated area has a finely acicular structure (photo). The  $H_v$  hardness of the martensitic layer next to the cut edge is 400, increases to 630 at 1.5 mm depth, decreases to 320 at 5 mm depth (probably owing to self-anneal), and transits into troostite. Spectrum analysis reveals a significant alteration of the alloying elements at and near the cut edge (to 0.3 mm depth), depending primarily on the degree of preheating of the metal prior to O-flux cutting. Analyses made on steels X17 (Kh17) and 1X13 (1Kh13) are shown. Cr, Mn, and Si burn out readily; in Mark-18-8 steels the upper edge is enriched with Ni, the concentration of which diminishes as the cutting jet penetrates the depth of the metal. The Ni concentration in the exit zone of the jet amounts to about 55-95% of that in the parent metal. Preheating facilitates the burn-out of alloying elements. The resulting change in composition reduces the stability of the austenite in NiCr steels, since the martensite-transformation temperature is raised thereby. The causes engendering the change in chemical composition are sought. The iron powder introduced burns up in the O stream and raises the temperature, whereupon: (1) The high solubility of the alloying elements facilitates their transition from the cut edge into the slag and back; also, the alloying elements in the steel transit from regions with lower temperature to regions with higher temperature,

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Investigations of the effect of oxygen-flux cutting... S/788/62/000/008/002/003

where their solubility is greater. This conclusion was substantiated by cutting two packeted plates conjointly, one of 1Kh18N9T and one of Ct.3 (St.3). The low-C steel underwent Ni enrichment at the cutting edge. This phenomenon can only be explained by Ni diffusion from the slag. (2) The abrasive action of the fast-moving flux particles and the removal thereby of the refractory oxides formed on the contact surface. (3) The mechanical mixing in the cutting zone of the parent metal and the powder with various concentrations of alloying elements and their strong oxidation due to the high O excess. Speedier cutting reduces the time of contact of the liquid slag with the cutting edge and minimizes diffusional exchanges. An interpretation of the resulting process as occurring in a two-phase system appears justified by experimental evidence. In view of the impairment of the physico-chemical characteristics of the metal near the cut edge it is recommended that 0.5 mm of the material near the edge be removed by grinding. There are 9 figures and 7 tables, also 7 references (6 Russian-language Soviet and 1 English-language: Stark, L.E., Bishop, C.R. Corrosion resistance of powder-cut stainless steels. The Welding Journal, v.28, no.3, 1949).

ASSOCIATION: None given.

Card 3/3

~~SPEKTOR, O. Sh.~~; VASIL'YEV, K.V., kand.tekhn. nauk, retsenzent;  
RAGAZINA, M.F., inzh., red.; UVAROVA, A.F., tekhn. red.;  
MAKAROVA, L.A., tekhn. red.

[Oxygen-flux cutting of stainless steel] Kislородно-флюсовая  
резка нержавеющей стали. Moskva, Mashgiz, 1962. 159 p.  
(MIRA 16:2)

(Gas welding and cutting)

SPEKTOR, O.Sh.; SHASHKOV, A.N., kand. tekhn.nauk, red.; SOBOLEVA,  
G.N., red.izd-va; GORDEYEVA, L.P., tekhn. red.

[Through and skin oxygen cutting under flux] Razdelitel'nai  
i poverkhnostnaia kisloredno-fliusovaia rezka. Moskva, Mash-  
giz, 1963. 93 p. (Bibliotekhka avtogazhchika, no.8)  
(MIRA 16:8)

(Gas welding and cutting)

SPEKTOR, O.Sh., inzh.; ASINOVSKAYA, G.A., inzh.; Prinimali uchastiye:  
BELOVA, Ye.V., inzh.; SEMENOVA, A.S., inzh.

Studying the nature and conditions of changes in the structure  
and chemical composition of St.3 steel at the surface of a cut.  
Trudy VNIIAvtogen no.9:19-32 '63. (MIRA 16:12)



STOLPER, Ye. B., inzh.; ALIFANOV, P.F., inzh.; SPEKTOR, O.Sh., inzh.;  
SUKHININ, G.K., inzh.

Oxygen-flux cutting of stainless steel risers. Svar. proizv.  
no.9:32-33 S '64. (MIRA 17:12)

1. Moskovskiy zavod "Serp i molot" (for Stolper, Alifanov).
2. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki metallov (for Spektor, Sukhinin).

SPEKTOR, O.Sh., inzh.

Oxygen flux cutting of high chromium steel. Svar.proizv. no.11:32-35  
N '64. (MIRA 18:1)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut avtogennoy obrabotki  
metallov.

SHASHKOV, A.N., kand. tekhn. nauk; ASINOVSKAYA, G.A., inzh.; SPEKTOR, O.Sh.,  
inzh.

Investigating the nature and conditions of the change in the chemical  
composition of structural steel at the surface of the cut. Trudy  
VNII Avtozheleznoy dorogi no.10:3-26 '64. (MIRA 17:10)

SPEKTOR, O.Sh., inzh.

Temperature of preheating structural steel prior to oxygen  
cutting. Trudy VNIIVTOGENMASH no.12:62-67 '65.  
(MIRA 18:11)

1st AND 2ND SHEET		PROCESSING AND PROPERTY INDEX		1st AND 2ND SHEET	
CA		SPEKTOR, R.M.		2	
<p>Stone crusher. R. M. Spektor. U.S.S.R. 47,980.          Dec. 31, 1966. The crusher is particularly suitable for          crushing limestone in power stations. M. H.</p>					
ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION					
SOURCE SYMBOL		SOURCE NO. AND DATE		SOURCE NO. AND DATE	
100000 04		100000 04		100000 04	

SPEKTOR, R. M.

Beneficiation of fluid slag and installation for R. M. Spektor. U.S.P. 104,571, Jan. 25, 1957. Molten slag is mixed with the beneficiating addna. It is then sprayed and again mixed while the heating of the melt is continued until the desired viscosity is obtained. The installation for this process comprises a bunker for the molten slag, a bunker-feeder for the addna, a rotating paddle drum, and a rotating turret-type melting furnace. M. Hoch

SPEKTOR, R.P., inzh.; EL'KINSON, P.A., inzh.

Modernizing the support unit for the "Pel's" crank press flywheel.  
Mashinostroenie no. 2:56 Mr-Apr '64. (MIRA 17:5)

SPEKTOR, S. A.

SOV/144-58-9-18/18  
**AUTHOR:** Gikis, A. F., Candidate of Technical Sciences, Docent  
**TITLE:** Inter-University Scientific Conference on Electric  
 Measuring Instruments and Technical Means of Automation  
 (Mezhvuzovskaya nauchnaya konferentsiya po  
 elektromeritel'nym priboram i tekhnicheskim sredstvam  
 avtomatiki)  
**PERIODICAL:** Izvestiya Vysshikh Uchebnykh Zavedeniy, Elektromekhanika,  
 1958, Nr 9, pp 130-135 (USSR)

**ABSTRACT:** The conference was held at the Leningradskiy  
 elektrotekhnicheskii institut imeni V. I. Ul'yanova  
 (Lenin) (Leningrad Electro-technical Institute imeni  
 V. I. Ul'yanov (Lenin)) on November 11-15, 1958. The  
 representatives of eleven higher teaching establishments  
 and three research institutes participated and a large  
 number of specialists of various industrial undertakings  
 were present.

Professor Ye. G. Shrankov and Junior Scientific Worker  
 S. A. Spektor (Leningrad Polytechnical Institute  
 Card 8/13) imeni M. I. Kalinin) presented the paper "Measurement

of large d.c. currents by the method of nuclear  
 magnetic resonance", which permits measuring with an  
 error below 0.1%; the built experimental instrument was  
 suitable for measuring currents up to 35 000 A with an  
 error not exceeding 0.05%.

Professor M. M. Shumilovskiy (Moscow Lenin Order Power  
 Institute) presented the paper "Basic trends of  
 development of radio-active methods of automatic  
 control of production processes"; he dealt with  
 sources of metering errors and methods of improving  
 the accuracy.

Professor Ye. Z. Tsykhin (Institute of Automatics and  
 Mechatronics, A.S. U.S.S.R.) presented the paper "On  
 certain features and potentialities of impulse  
 automatic systems". He dealt particularly with  
 "compensation" delay in impulse automatic systems,  
 impulse extremal and self-setting systems and basic  
 trends in the development of impulse circuits.  
 Card 9/13



83631

S/058/60/000/005/005/008  
A005/A001

9.6/30

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 5, p. 187, # 11597

AUTHOR: Spektor, S.A.

TITLE: The Errors in the Method for Measuring High-Intensity Direct Currents by Using the Nuclear Magnetic Resonance *M*

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t, 1959, No. 3, pp. 33-44

TEXT: The errors in the method of measuring high-intensity direct currents are calculated; this method was proposed earlier (RZhFiz, 1958, No. 8, # 18238). The author suggests to eliminate susceptibility corrections for cylindric specimens by introducing paramagnetic ions into the specimen's structure, which compensate the diamagnetic susceptibility. Experiments substantiated the possibility of producing specimens having zero-susceptibility. Methods are suggested for excluding the influence of external fields. According to the author's calculations, the main error of the method does not exceed 0.05%. This result was *UX*

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S/058/60/000/005/005/008

A005/A001

The Errors in the Method for Measuring High-Intensity Direct Currents by Using the Nuclear Magnetic Resonance

substantiated experimentally. The guaranteed accuracy amounts in the author's opinion to 0.1%. X

N.M. Pomerantsev

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

9.6130

83630

S/058/60/000/005/004/008

A005/A001

Translation from: Referativnyy zhurnal, Fizika, 1960, No. 5, p. 187, # 11596

AUTHORS: Zorin, D.I., Spektor, S.A.

TITLE: The Determination of the Constants of a Measurement Unit for  
Measuring High-Intensity Direct Currents by the Nuclear Magnetic  
Resonance Method <sup>19</sup>

PERIODICAL: Nauchno-tekhn. inform. byul. Leningr. politekhn. in-t. 1959, No. 3,  
pp. 45-47

TEXT: The authors propose a method of calibrating primary transducers for  
measuring high-intensity direct currents by the nuclear magnetic resonance method.  
They use the comparison of measurement units designed for various ranges of  
currents to be measured. The advantage of the method consists in the fact that  
it does not require the exact measurement of the geometric dimensions of the  
transducers and, consequently, their precise treatment.

N.M. Pomerantsev

Translator's note: This is the full translation of the original Russian  
abstract.

Card 1/1

<sup>K</sup>  
SPECTOR, S. A., METHOD AND EQUIPMENT FOR MEASURING  
HEAVY DIRECT CURRENTS <sup>by means of</sup> ~~BY MEANS OF~~ NUCLEAR MAGNETIC  
RESONANCE." LENINGRAD, 1961. (COM OF STANDARDS, MEAS-  
URES, AND MEASURING DEVICES UNDER THE COUNCIL OF MINI-  
STERS USSR, ~~VNIPI~~ ALL-UNION SCI RES INST] OF METROLOGY  
IM D. I. MENDELEYEV). (KL, 3-61, 220).

L 17859-66 EWT(m)/EWA(d)/EWP(•)/EWP(t) JD

ACC NR: AT6005073

SOURCE CODE: UR/2563/65/000/256/0056/0057

AUTHOR: Zaytsev, V.I.; Spektor, S. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhicheskiy institut)

TITLE: Compensation device with a frequency output for the measurement of magnetic induction of constant magnets

SOURCE: Leningrad. Politekhicheskiy institut. Trudy, no. 256, 1965. Tsifrovyye izmeritel'nyye i upravlyayushchiye ustroystva (Digital measuring and control devices), 56-57

TOPIC TAGS: NMR, magnetic induction, magnetic field measurement

ABSTRACT: Magnetic systems with radial magnetic fields are used in magnetoelectric high accuracy devices (0.1; 0.2). To study the temperature characteristics of such systems the magnetic induction should be measured with errors not exceeding 0.01 - 0.02%. This is within the capabilities of the NMR method, but it was difficult to apply

Card 1/2

L 17859-66

ACC NR: AT6005073

it in the past in narrow gaps with a large field inhomogeneity. The present article discusses a compensation method of measurement (Avt. svid. No 165823, Byulleten', 1964, No 20) based on the use of two torques of two magnetoelectric mechanisms. One torque is created by the interaction of a current conducting coil and the magnetic field under investigation, and the other is generated by another coil carrying the same current but placed in a uniform magnetic field the induction of which can be smoothly varied and the magnitude of which is determined very accurately by NMR. When using the ChZ-4 frequency meter, the error of which did not exceed 0.001%, the overall error of induction determination was  $1.7 \cdot 10^{-3}\%$ . Orig. art. has: 8 formulas and 1 figure.

SUB CODE: 14, 20/ SUBM DATE: none/ ORIG REF: 001/ OTH REF: 001

Card 2/2 nat

L 21478-66 EWT(d)/EWT(1)/EWT(m)/EEC(k)-2/EWA(d)/EWP(t) IJP(c) JD

ACC NR: AT6005074

SOURCE CODE: UR/2563/65/000/256/0058/0061

AUTHOR: Zaytsev, V. I.; Spektor, S. A.

ORG: Leningrad Polytechnic Institute im. M. I. Kalinin (Leningradskiy politekhnicheskii institut)

TITLE: Measurement of nonhomogeneous magnetic fields of permanent magnets over a wide temperature range by the NMR method

SOURCE: Leningrad. Politekhnicheskii institut. Trudy, no. 256, 1965. Tsifrovyye izmeritel'nyye i upravlyayushchiye ustroystva (Digital measuring and control devices), 58-61

TOPIC TAGS: magnetic field measurement, NMR, nonhomogeneous magnetic field

ABSTRACT: The accurate determination of permanent magnetic fields within narrow magnetic gaps and varying temperature conditions encounter considerable technical difficulties. The present article describes a device representing a combination of the zero ballistic and nuclear magnetic resonance methods. The device, shown in Fig. 1, can register magnetic induction in gaps of 1 mm and less in the presence of arbitrary field inhomogeneities and a wide temperature range. It can be used for the determination of the temperature coefficient of permanent magnets. The method is based on

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L 21478-66  
ACC NR: AT6005074

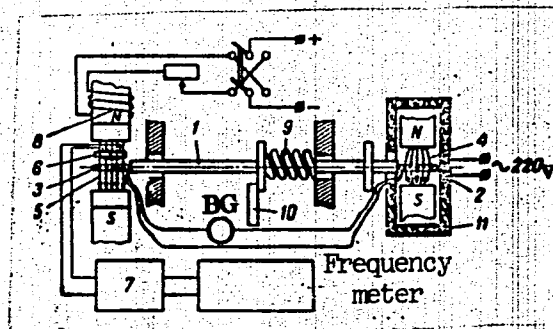


Fig. 1. Installation for the measurement of the magnetic induction of nonhomogeneous magnetic fields:

1 - Rod; 2, 3 - sensor frames; 4 - nonhomogeneous field; 5 - uniform magnetic field; 6 - NMR sensor; 7 - NMR circuit; 8 - coil; 9 - springs; 10 - catch.

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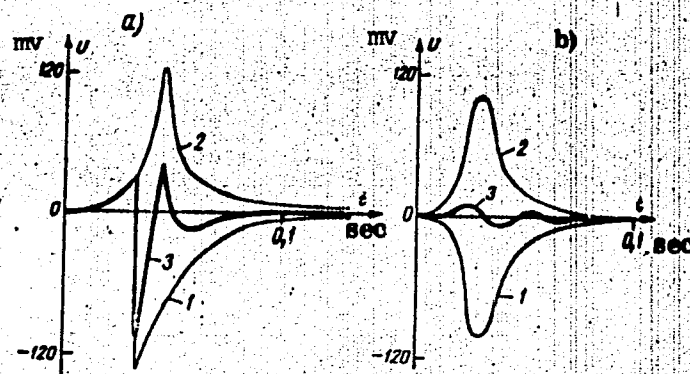


Fig. 2. Comparison of compensating pulses measured

a - On the Tenzer device (R. K. Tenzer, Archiv für Elektrotechnik, Bd. 40, H. 7, 1952, S. 406); b - on the proposed NMR device; 1 - compensation pulse; 2 - pulse from the magnet under investigation; 3 - resulting compensation curve.

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a comparison of two emf pulses travelling in opposite directions. One of the pulses originates in a test coil from the air gap of the system under study, and the other in another test coil from a homogeneous magnetic field. Simultaneously, the NMR circuit establishes the magnitude of the homogeneous magnetic field. The comparison of the pulses is shown in Fig. 2. Tests showed that the results are reproducible within 0.01%. A more sensitive zero indicator and better photoelectric microampere fluxmeters reduce this value to approximately 0.003%. Orig. art. has: 3 formulas and 3 figures. [08]

SUB CODE: 14, 20 / SUBM DATE: none / ORIG REF: 001 / OTH REF: 001 / ATD PRESS: 42/8

Card 4/4 dda

L 0457-66 EWT(1) IJP(c) AT

ACC NR: AP6009519

SOURCE CODE: UR/0413/66/000/005/0040/0040

AUTHOR: Spektor, S. A.

ORG: none

TITLE: Device for investigations by the nuclear magnetic resonance of electron paramagnetic resonance methods. Class 21, No. 179375

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 5, 1966, 40

TOPIC TAGS: nuclear magnetic resonance, electron paramagnetic resonance, electronic measurement

ABSTRACT: The proposed device consists of a Hall pickup mounted in the gap of a magnet, an hf oscillator with a controlled reactive element in the oscillatory circuit, a detector, an amplifier, and a phase-sensitive detector. In order to automate the measuring processes over a wide range of magnetic induction and to reduce static error, the Hall pickup is connected through the amplifier and the rectifier to the controlled reactive element. The latter is connected to the output of the phase-sensitive detector. A block diagram is shown in the figure. Orig. art. has: 1 figure.

[DW]

Cord 1/2

UDC: 538.711:539.1.075

L 20457-66

ACC NR: AP6009519

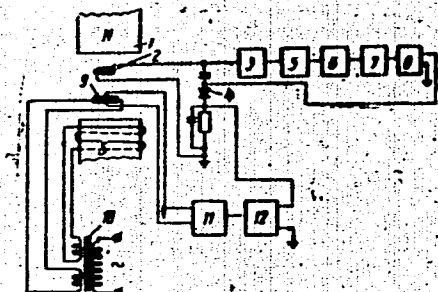


Fig. 1. Measuring device

1 - Magnet; 2 - NMR or EPR pickup; 3 - oscillator; 4 - controlled reactive element; 5 - hf amplifier; 6 - detector; 7 - lf amplifier; 8 - phase-sensitive detector; 9 - Hall pickup; 10 - power supply; 11 - amplifier; 12 - rectifier.

SUB CODE: 18, 09 SUBM DATE: 21Sep63 / ATD PRESS: 4222

Card

2/2 BK

ACC NR: AT6011936

SOURCE CODE: UR/0000/66/000/000/0163/0167

AUTHOR: Ivanova, V. Ya. (Leningrad); Spektor, S. A. (Leningrad)

ORG: none

TITLE: The frequency-digital method for thickness determination

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy, 5th. <sup>9m</sup> Avtomaticheskii kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques, transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966, 163-167

TOPIC TAGS: NMR, quality control, analog digital converter, ~~measuring instruments~~

*nuclear physics apparatus*  
ABSTRACT: The fact that there are many different methods for the continuous industrial measurement of the thickness of products which are accessible from one side only seems to indicate that probably none of them is completely satisfactory. Consequently, to improve on the accuracy of such measurements and yet keep the size of the necessary devices within reasonable limits, the authors developed a new method based on nuclear magnetic resonance. The unit, requiring access to the sample from only one side, yields the results in digital

Card 1/2

L 31534-66 EWT(1) IJP(c) OD

ACC NR: AT6011940

SOURCE CODE: UR/0000/66/000/000/0233/0236

AUTHOR: Zaytsev, V.I. (Leningrad); Spektor, S.A. (Leningrad)

ORG: none

TITLE: A method for the accurate measurement of inhomogeneous magnetic fields in a wide range of temperature

SOURCE: Vsesoyuznaya konferentsiya po avtomaticheskomu kontrolyu i metodam elektricheskikh izmereniy, 5th. Avtomaticheskii kontrol' i metody elektricheskikh izmereniy; trudy konferentsii, t. 2: Izmeritel'nyye informatsionnyye sistemy. Ustroystva avtomaticheskogo kontrolya. Elektricheskiye izmereniya neelektricheskikh velichin (Automatic control and electrical measuring techniques; transactions of the conference, v. 2: Information measurement systems. Automatic control devices. Electrical measurements of nonelectrical quantities). Novosibirsk, Izd-vo Nauka, 1966. 233-236

TOPIC TAGS: NMR, magnetic field measurement, measuring instrument

ABSTRACT: The high accuracy requirement imposed on the measurements of widely varying magnetic fields and the great variety of circumstances under which magnetic induction measurements must be performed made it necessary to combine the classical compensation method of field measurements (ballistic induction) with the modern methods of nuclear magnetic resonance. The new method, described in the article, is based on a comparison of the emf pulse from the search coil during its removal from the inhomogeneous field being measured with the emf pulse generated in a second search coil pulled out of a uniform magnetic field, the

Card 1/2

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ACC NR: AT6011940

magnetic induction of which is determined to a large degree of accuracy by the NMR unit. The prototype device can investigate fields within 1 mm gaps and less, with an error not exceeding 0.01%. The proposed method may be also used for the determination of magnetic field gradients. Orig. art. has: 1 formula and 1 figure.

SUB CODE: 14, 20/ SUBM DATE: 29Nov65/ ORIG REF: 001/ OTH REF: 001

Card 2/2 LC

ACC NR: AP6026952

SOURCE CODE: UR/0115/66/000/007/0078/0081

AUTHOR: Levinzon, D. I.; Medvedev, P. D.; Spektor, S. A.

ORG: none

TITLE: Automatic device for measuring resistivity of semiconductor ingots by the 4-probe method

SOURCE: Izmeritel'naya tekhnika, no. 7, 1966, 78-81

TOPIC TAGS: semiconducting material, semiconductor research, *physics laboratory instrument, electronic test equipment, resistivity*  
 ABSTRACT: The measuring 4-probe head continuously rolls over the surface of an ingot. Each probe consists of a 0.08-mm thick steel disk; the spacing between the disks is  $1.30 \pm 0.01$  mm. A 2-transistor current stabilizer ensures a constant value of 0.816 ma at all times; the resistivity is measured by the conventional compensation method. The resistivity scale spans used are: 0--500, 0--1500, 0--4500, and 0--7500 ohms.m; a principal circuit is shown. Some results of automatic measurements made with the above device were compared with the results obtained from a conventional tungsten-needle 4-probe head-operated device; the difference was found to be within 1--3%. It is claimed that the automatic method has generally a lower error and a higher resolution than the manual method. Orig. art. has: 2 figures, 2 formulas, and 2 tables. [03]

SUB CODE: 09 / SUBM DATE: none / ORIG REF: 002 / OTH REF: 001

Card 1/1

UDC: 621.317.83:621.315.592



TREGER, Yu.A.; FLID, R.M.; SPEKTOR, S.S.

Solubility of allyl chloride in water and in aqueous solutions  
of HCl. Zhur. fiz. khim. 38 no.2:478-481 F '64.

(MIRA 17:8)

TREGER, Yu.A.; FLID, R.M.; ANTONOVA, L.V.; SPEKTOR, S.S.

Complex formation of allyl chloride and allyl alcohol with  
monovalent copper salts. Zhur.fiz.khim. 39 no.11:2831-2835  
N '65. (MIRA 18:12)

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<div style="position: absolute; top: 10px; left: 10px; font-size: 2em; font-weight: bold;">CA</div> <div style="position: absolute; top: 10px; right: 10px; font-size: 2em; font-weight: bold;">22</div> <div style="position: absolute; top: 50%; left: 50%; transform: translate(-50%, -50%); text-align: center;"> <p>Compounding aviation gasoline. <i>St. St. Barker and M. A. Podolski. 1. Aviaticheskoe Neftyanoe Khoz. 28, No. 7, 20-3(1947).—The blending of various components to obtain a uniform aviation gasoline is discussed.</i></p> <p style="text-align: right;">M. Hough</p> </div>																			
ASB-51A METALLURGICAL LITERATURE CLASSIFICATION										8-2									
FROM SYNDICATE										FROM BOWLING									
SYNDICATE										BOWLING									

1ST AND 2ND DIGITS

3RD AND 4TH DIGITS

PROCESSES AND PROPERTIES INDEX

22

CA

Compounding oil and other petroleum products. Sh. Spetkov. *Izvestiya Khim. 26, No. 9, 17218 (1947).*—The problem of mixing in the compound-  
ing of oils and greases is discussed. M. Houch

COMMON ELEMENTS

COMMON VARIABLE ELEMENTS

ASB-51A METALLURGICAL LITERATURE CLASSIFICATION

SECTION DIVISION

SECTION HEP DIV ONE

SECTION TWO

SECTION ONE DIV TWO

Spektor, Sh.

Modernization of distillation units for petroleum residues.  
V. Aliev, I. Blagovodov, I. Shchekunov, and Sh. Spektor.  
*Novosti Neflyanoi Tekhn., Neftepererabotka* 1950, No. 4, p. 14.  
15.—The recovery of distillates from vacuum-distn. units  
was improved by increasing the size of the tubes in the ra-  
diant section of the furnace from 3.5 to 5.75 in., providing  
an atm.-pressure section for removal of the light fractions  
and introducing steam into the radiant tube sections of the  
furnaces for both the atm. and vacuum units.

H. G. Voelker

SPEKTOR, Sh. Sh. and BLAGOVIDOV, I. F.

"Fight Against Losses of Petroleum Products at Oil Refineries," a chapter of the book "Operation of Oil Refineries," published by Baku, Azer. Branch, Gostoptekhizdat, 1951.

pages 190-195

Translation D 257880, 27 Jun 55

*SPEKTOR, SH. SH.*

BLAGOVIDOV, I.F.; SPEKTOR, Sh.Sh.; UDALYY, A.M., vedushchiy redaktor;  
VOLOKH, S.M., professor, redaktor; ISMAYLOV, R.G., dotsent, redaktor

[Operation of oil refineries] Eksploatatsiia neftepererabatyvaiu-  
shchikh zavodov. Pod red. S.M.Volokha i R.G.Ismailova. Baku, Gos.  
nauchno-tekhn. izd-vo neftianoi i gorno-tiplovnoi lit-ry,  
Azerbaidzhanskoe otd-nie, 1951. 199 p. [Microfilm] (MLRA 7:10)  
(Petroleum--Refining)

KORCHAGINA, V.I.; KARDASH, I.M.; SPEKTOR, Sh.Sh., red.; MIKHAYLOVA, N.V.,  
tekhn.red.

[Losses of petroleum products in petroleum refineries and means  
of combating them] Poteri nefteproduktov na neftepererabatyvayu-  
shchikh zavodakh i bor'ba s nimi. Baku, Gos. nauchno-tekhn.  
izd-vo neft. i gorno-toplivnoi lit-ry, Azerbaidzhanskoe otd-nie.  
1953. 62 p. (MIRA 11:4)

(Petroleum products)



*Spektor, Sh. Sh.*

GONCHARYUK, V.A.; SPEKTOR, Sh.Sh., redaktor; KADYRLI, A.M., tekhnicheskiy redaktor

[Fire prevention measures at petroleum refineries] Protivopozhar-  
nye meropriiatiia na neftepererabatyvaiushchikh zavodakh. Baku,  
Gos. nauchno-tekhn. izd-vo neftianoi i gorno-toplivnoi lit-ry.  
Azarbaidzhanskoe otd-nie, 1954. 167 p. [Microfilm] (MIRA 7:10)  
(Petroleum industry--Fires and fire prevention)

OPENTOR, SH. SH.

"Chemistry and Petroleum Conversion" by R. G. Ismailov and Sh. Sh. Spektor,  
Azer. Neft. Khoz., January 1956.

In view of the rising demand for solar fractions needed for the Diesel and heavy motor fuel production certain suggestions are made in this article as to how the petroleum fractionation could be intensified and labor efficiency raised. It is proposed to install for this purpose an auxiliary vacuum vaporizer attached to the atmospheric unit.

SO: Translation D527577

ISMAYLOV, R.G.; SPEKTOR, Sh.Sh.; GUTYRYA, V.S.

Evaluating the degree of utilization of raw materials by operating  
crews of oil refineries. Azerb.neft.khoz.35 no.7:27-29 J1 '56.  
(Petroleum--Refining)

SECRET 7/5/57

GUSEYNOV, Dzhebrail Alekper ogly; PARAMAZOV, Seyran Arutyunovich; SPEKTOR,  
Sh.Sh., red.; AL'TMAN, T.B., red. izd-va.

[Technology and mechanization of the production of petroleum bitumen]  
Tekhnologiya i mekhanizatsiya proizvodstva neftebitumov. Baku,  
Azerbaidzhanskoe gos.izd-vo nefte.i nauchno-tekhn.lit-ry, 1957. 180 p.  
(MIRA 11:1)

(Petroleum)

(Bitumen)